

Harriers and other birds of prey may often be seen soaring up with vultures and they are obviously not seeking their prey. They are seeking the cool air at a high altitude.

Mr. Brander describes very well how the sky is 'drained' of its vultures as soon as a carcass is found—vulture after vulture following on the direct and purposeful flight of those that give the show away—only it is not only the crow that gives the first indication. In many places crows are absent or scarce. Dogs, wolves and jackals are especially watched by vultures for this purpose and probably the big cats too.

On their own—without a pointer—vultures can be very silly and pass quite close to a carcass without spotting it. This is often to be seen when waiting in hiding for a tiger or leopard over a 'kill'. The inability of vultures to find such 'kills', points to their having little or no sense of smell.

Recently instances of vultures descending to feed on a tiger 'kill' by night have been recorded—presumably by moon light. In view of their terror of the tiger such instances are noteworthy. I have seen a tiger at noon charge out on to vultures that had the temerity to descend onto the 'kill', and leap up at them and try to claw them down—a pretty sight!

How long can vultures go without food? How often do they drink? There are a number of interesting questions to ask about these filthy fowl. The Lämmergeyer has always intrigued me for I have never seen one feeding yet!

Would Mr. Donald give us some information about the soaring of birds of prey?

TAUNGGYI, BURMA.

T. R. LIVESEY.

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XVII.—EAGLES ON THE NILGIRIS.

A few years ago I was having a talk on the verandah of the Ootacamund Club with two sportsmen who were discussing their day's shoot on the downs. Their bag consisted of three or four jungle fowl, all hens, and a brace of woodcock, and they were deploring the shortage of game generally on the hills. My suggestion that the shooting of jungle fowl be restricted to cock birds only did not find favour, and when I remarked that perhaps the various eagles met with were responsible they told me there were no eagles here, and that if I meant kites or sparrow hawks, they certainly did no harm. Shortly after this I was asked by a lady if I would call round at her house to shoot a kite which was going off with her fowls and pigeons. I could understand the lady not knowing that it was not the common kite which was the culprit, but it surprised me very much that two men who were out with their guns every shooting season did not know better. When, later on, I was prompted to write an article on eagles to a certain newspaper I sent each of them a copy.

I have recently come across this article and find, that while my descriptions of these birds are such that will make identification easy to people like myself who have not taken up natural history as a study, they will not assist the naturalist readers of your journal in the same way. I am however writing these notes on the same lines and trust they will prove of interest.

There are three eagles on these hills. The Black eagle, Bonelli's eagle, and a bird which may be the Imperial eagle.¹ The last is not often seen and, I think, is only an occasional visitor. The first one I saw was on the hill above the Toda cathedral at the top of the Sigur ghat. It was on the summit of a cliff and was feeding on what looked like a hare. I was able to approach to within about fifteen yards when it rose and flew away from me, but it went only a short distance and then came at me with talons extended, and it was all I could do to keep it off with a heavy walking stick. I gradually increased my distance away from the kill, but it was some time before I got clear and felt safe.

I mentioned the story that evening to a friend, and he arranged to come out with me to the spot next morning. We were fortunate to see two birds this time. They were at first circling above us with a dozen or more vultures, obviously all interested in some dead beast in the valley below. Presently the two eagles separated from the others and flew over us at no great height. My friend felt sure they were golden eagles and I was not any the wiser at the time, but I have since been told that they may have been the Imperial eagle and I have seen three or four others since.

The bird is dark brown and closely resembles the Golden eagle, but it has not the same easy flight of either the Golden or the Bonelli's eagle, and I can well imagine it has not the speed of the latter.

THE INDIAN BLACK EAGLE (*Ictinaëtus malayensis permiger*).

This is a very handsome bird. All black except for its feet which are bright yellow. I have seen it at close quarters many times, and on one occasion I saw one chivy a snipe which I had put up near the Avalanche bungalow. It hunts after the method of the harrier, beating the hill side, and at times checking its flight and dropping into tall grass. I once drew a friend's attention to one which was beating over some low scrub, and his remark that it was a kite somewhat darker than the ordinary might be made by any one who was not a keen observer. It does not look much bigger than a kite, but the span of its wings is quite five to five and a half feet, and the greenish horny bill and fierce looking eyes proclaim it as something more savage than the homely old kite.

These eagles are to be seen, either singly or in pairs, all over these hills and especially where the plateau falls away to the low

¹ [Neither the Golden Eagle nor the Imperial Eagle are known to occur on the Nilgiris. The Small Indian Spotted Eagle (*Aquila pomarina hastata*) has been obtained at Kotagiri.—Eds.]

country. I have seen them on both the Gudalur and the Mettappalliam ghats.

BONELLI'S EAGLE (*Hieraaëtus fasciatus*).

These birds are common on the Nilgiris although I have never seen more than two at a time. I have also never seen one by itself. They hunt in pairs and put in some wonderful team work. It is surprising to know how very few people there are up here who have any knowledge about them, and it is pretty certain that many who keep poultry and pigeons think that the birds they have lost have been taken by kites or sparrow hawks, whereas the culprit is one which comes under the 'true eagle' class.

Pigeons are taken in flight while a chicken or perhaps a full grown hen is swooped on from a height and disappears before the owner is aware of what has happened. People on the Nilgiris who read this article might like to have a description of the bird, or would want to know where to look for it, and I can best describe it as having a white breast with the under-parts of the wing a brownish white, and the upper parts a dark brown throughout. The wing expanse is a full six feet, and although this might be discredited when the birds are seen by themselves high up in the air, a better idea of their size is obtained if they are seen in close proximity to crows or kites. The description given will help towards identifying the bird, and I suggest that if a flock of pigeons is seen in flight over the bazaar, or any where else, a patient watch might be rewarded. Ordinarily the pigeons will be circling round together, but if it is noticed they have suddenly separated into twos and threes and commenced zig-zag and faster flighting it means they have spotted the enemy, perhaps a mile up overhead, or perhaps already on the downward swoop. The speed is terrific and the noise as they approach is just as though a huge rocket was going through the air. I have more than once seen a chase from start to finish, and although there are two eagles which do the pursuing it is usually only the one pigeon that they pursue. Sometimes the eagles hunt independently and chase two birds, but as a rule they rely on team work to make certain of getting one.

It is probable that while the eagles have been watching the pigeons from above they have been able to gauge the speed of the fliers and make their decision accordingly. A few young birds in a flock can, no doubt, be easily picked out, and perhaps the decision, to follow only one, is made if all the pigeons are mature and strong on the wing.

If it so happens that the eagles are seen before they have swooped, it will be noticed that they give the appearance of not being in the least interested. They move slowly, one behind the other, and the leader's dive is so sudden as to be almost unexpected. No. 2 waits a few moments till it knows which bird is to be chased and sometimes it makes a kill with its first swoop. If it misses, it allows itself to be taken up by the momentum of its dive, and a succession of dives may be repeated in this way. No. 1 eagle meanwhile pursues relentlessly, and whether the pigeon turns to right or left, or does a spiral dive or a quick rise, the

eagle is just behind, and if it is not fast enough to catch up with the pigeon the other one is almost certain to get it. I don't say that all pigeons can be caught. I have seen some get away, but the fact that the average pigeon, which is a fast flier, can be caught, means that the eagle is gifted with considerable speed. The Bonelli does considerable damage among poultry and also takes toll of the small game on these hills, and I should not be surprised to know that a swoop down to the tanks in the low country supplies him with an occasional wild duck or teal.

Bonelli's eagle is to be seen on the Nilgiris at all seasons of the year and I think it must nest on the rocky crags of Mukerti or Nilgiri Peak, or perhaps on the cliffs above Masingudi. From two to three thousand feet below I have watched a pair fly out and return to a ledge on the cliff side where I feel sure there must have been a nest.

One wonders how this eagle gets its food during the monsoon when the skies are overcast for weeks and months at a time. It hunts in the open and needs good visibility to search out game, and apparently it never leaves its haunts, as I have seen a pair at work almost as soon as a blue sky has appeared after a lapse of many days. The solution must be that a flight of an hour or so would take it into bright sunshine either in a north easterly or south west direction according to the time of the year. Its hunting beat must cover a very extensive area when it is realized that if fighting a mile or so above the highest mountain tops, its range of vision can take in places so far as apart as Gudalur and Coimbatore in one direction, and Nilambur and Sathamangalam in another.

The flying man can best appreciate this but he has not the eye of an eagle. The eagle must do a good one hundred and twenty miles an hour on a downward flight so that a drop down from Dodabetta to Gudalur would not take much more than ten minutes.

It is curious how deceptive are the sizes of birds when viewed on the wing. I once pointed out two Bonelli's eagles to a man who estimated the span at three feet, which is just one half the actual size. I recollect also reading a report of an address given by a lady in Ootacamund, in which she mentioned the span of an albatross as very nearly four feet, and her audience were astonished to know that this gull was so big.

Some years ago I was travelling by steamer between Adelaide and Fremantle and dozens of these birds followed us for three or four days. Passengers were interested to know actually how big they were and the general opinion among them was that the wing span was not less than five feet, and all were surprised to learn from the ship's officers that ten feet¹ was nearer the mark. Occasionally one of these birds gets knocked out by coming into contact with the rigging and one which fell on deck was measured and taped

¹ [J. F. Green (*Ocean Birds*, p. 5) says that the largest albatross out of well over a hundred measured by him had a span of 11 ft. 4 in. from tip to tip.—Eds.]

out at over ten feet. Bonelli's eagle, as I have said, measures six feet. A certain buzzard on these hills is very like the Bonelli. Its flight is somewhat similar and it looks to be almost as big, but it can be distinguished by its darker breast and slightly striped colouring on the lower parts of the wings. I have not seen them hunt game and they take no notice of pigeons but on many occasions I have seen them knock down a honey-comb. It is in the bright sunny days of spring that Bonelli's eagle is most frequently seen, and it is also then a common sight to see them mobbed by crows. The reason is that the eagle sometimes goes off with a young crow as he would a pigeon and in consequence is hated by the tribe.

In concluding these notes I would like to say something about falcons. The Peregrine¹ and the Lugger are both found here at certain seasons and I have had opportunities to watch them on shikar. Both are destructive to small birds, and while both no doubt are capable of taking pigeons and poultry I feel sure that of the two the lugger does most damage. He kills pigeons and jungle hens bigger than himself, and for persistence in the chase has no equal. Bonelli's eagle can be scared off his attack on pigeons by shouting and clapping of hands, but nothing frightens the lugger. I saw one chase a pigeon for a full half hour and catch it eventually. The pigeon seemed to have the speed and at times got well ahead but the lugger did not give in, and the end came so suddenly that I think the pigeon gave up in despair. It collapsed in mid air when the lugger was some yards behind and was caught before it dropped to earth. The whole chase took place in a valley between two high spurs and the finish was immediately above me. I had the satisfaction of shooting the lugger as he came to earth astride the dead pigeon.

OOTACAMUND.

H. E. BURGESS.

July 1936.

XVIII.—THE DISTRIBUTION AND NIDIFICATION OF THE GREATER SPOTTED EAGLE (*AQUILA* *CLANGA* PALLAS) IN SIND.

Hume considered *A. clanga* to be the commonest eagle in Sind.

This however was in 1872 and the scene since has changed considerably. *Clanga* is no longer as abundant now as it was 64 years ago.

The Greater Spotted Eagle is a bird of well watered and fairly well wooded tracts, where rivers, perennial canals, swamps or lakes provide it with a plentiful supply of frogs, its staple food.

¹ [The Peregrine (*F. peregrinus calidus*) and the Sahin Falcon (*F. p. peregrinator*) both occur on the Nigiris. The latter is said to be rare. The Lugger Falcon (*F. jugger*) has not been recorded from the area, though it has been obtained in the Wynaad. Unfortunately Mr. Burgess did not send us the specimen obtained by him for identification. Skins of the larger birds of prey from the South Indian Hill ranges are wanted; the Society would be glad to receive specimens.—EDS.]